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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,624

06/20/2006

Peter Lohberg

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CONTINENTAL TEVES, INC.
ONE CONTINENTAL DRIVE
AUBURN HILLS, MI 48326-1581

EXAMINER

NOLAN, PETER D

ART UNIT

PAPER NUMBER

3661

MAIL DATE

DELIVERY MODE

02/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,624	Applicant(s) LOHBERG ET AL.	
	Examiner Peter D. Nolan	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/20/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/20/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/20/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement submitted 6/20/2006 has been considered and placed of record in the file.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 11-13, 15-17, 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lahmann et al. (US 2002/0189883 A1).
3. **Regarding claim 11**, Lahmann teaches a control device of at least one protective device for rollover protection for occupants of a motor vehicle (**see Lahmann figure 2 and paragraph 36. See also paragraphs 11-13**), wherein the control device is provided with at least one rotational acceleration sensor for detecting a rotational acceleration about the longitudinal axis of the vehicle (**see Lahmann figure 2, rotational acceleration sensor 4 and paragraph 37**) and at least one analyzer device for analyzing the detected rotational acceleration (angular acceleration), and for generating a control signal for the protective device for rollover protection of the

occupants (**see Lahmann figure 2, computing unit 5 and passenger safety application 7. See also paragraph 38**), said signal depending on the detected rotational acceleration (**see Lahmann paragraph 38**).

4. **Regarding claim 12**, Lahmann teaches where the rotational acceleration is the only measured quantity relating to a rotation or inclination of the vehicle about the longitudinal vehicle axis (**see Lahmann figure 2 and paragraphs 38-41 where sensor 4 is shown as the only sensor measuring rotation (sensors 10 measuring acceleration in the Z and Y directions). See also paragraph 47 describing an alternative embodiment using a separate rotational rate sensor**).

5. **Regarding claim 13**, Lahmann teaches where the rotational acceleration sensor is a silicon micromechanical sensor (**see Lahmann paragraphs 24, 37**).

6. **Regarding claim 15**, Lahmann teaches where the protective device has at least one occupant restraint device (**see Lahmann paragraph 13**).

7. **Regarding claim 16**, Lahmann teaches where the occupant restraint device includes at least one side airbag (**see Lahmann paragraph 13**).

8. **Regarding claim 17**, Lahmann teaches where the protective device has at least one activatable rollover protection device for head protection (**see Lahmann paragraph 13**).

9. **Regarding claim 19**, Lahmann teaches a restraint system for protecting occupants of a vehicle (**see Lahmann figure 2 and paragraph 36. See also paragraphs 11-13**), wherein the restraint system has at least one side airbag (**see Lahmann figure 2, passenger safety application 7 and paragraph 13**) and one

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control device, the control device being provided with at least one rotational acceleration sensor for detecting a rotational acceleration about the longitudinal axis of the vehicle (see **Lahmann figures 1 and 2, acceleration sensor 4 and paragraphs 37, 38**) and at least one analyzer device for analyzing the detected rotational acceleration (see **Lahmann figure 2, computing unit 5 and deployment decision unit 6. See also paragraph 38**), and for generating a control signal for the side airbag, said signal depending on the detected rotational acceleration (see **Lahmann paragraph 40**).

10. **Regarding claim 20**, Lahmann teaches a method for deploying a protective device for rollover protection of occupants for a motor vehicle, the method comprising the steps of measuring a rotational acceleration about the longitudinal axis of the vehicle (see **Lahmann paragraph 37**); comparing the detected rotational acceleration or a quantity derived therefrom with a limit value (see **Lahmann paragraph 40**), generating a signal for deploying the protective device when the detected rotational acceleration or the quantity derived therefrom exceeds the limit value (see **Lahmann paragraph 40**), and deploying the protective device (see **Lahmann paragraph 40**).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lahmann et al. (US 2002/0189883 A1) in view of Allen et al. (US 5445006) and Acar et

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al. (C. Acar, A. M. Shkel, "Experimental evaluation and comparative analysis of commercial variable-capacitance MEMS accelerometers," *Journal of Micromechanics and Microengineering*, vol. 13, May., pp.634-645, 2003).

3. **Regarding claim 14**, Lahmann does not explicitly teach where the rotational acceleration sensor is a passive sensor designed as a micromechanical sensor unit.

4. Allen teaches a rotational acceleration sensor that is a passive sensor designed as a micromechanical sensor unit (**see the piezoresistive accelerometers discussed in Allen in figures 1 and 3; column 3, lines 36-44; column 4, lines 55-60; column 9, lines 54-62**).

5. It would be obvious to one skilled in the art to use the passive rotational acceleration sensor taught in Allen in the control device in Lahmann because piezoresistive micromechanical accelerometers are easy to implement and use simple detection electronics (**see Acar page 1, paragraph 3**)

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lahmann et al. (US 2002/0189883 A1) in view of Morrell et al. (US 2001/0037170 A1).

7. **Regarding claim 18**, Lahmann does not teach where the control device has two redundant rotational acceleration sensors.

8. Morrell teaches where a rollover protection device may contain two redundant sensors (**see Morrell paragraphs 3, 5**).

9. It would be obvious to one skilled in the art to use redundant rotational acceleration sensors in Lahmann, as taught in Morrell, because redundant sensors can

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prevent inadvertent airbag deployment if one of the sensors fails (**see Morrell paragraph 5**).

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lahmann et al. (US 2002/0189883 A1) in view of Iyoda et al. (WO 03/010034).

11. **Regarding claim 21**, Lahmann does not teach where the method comprises comprising the steps of measuring a first and a second rotational acceleration; comparing the two rotational accelerations or quantities derived therefrom with one another and, depending on the result of the comparison, performing a plausibility check based on the comparison.

12. Iyoda teaches where a method for deploying a protective device for rollover protection of occupants of a motor vehicle comprises, in part, the steps of measuring a first and a second rotational velocity (**see Iyoda figure 1, first and second roll rate sensors 22, 24; page 5, lines 6-18; figure 6, steps S102, S104; page 10, lines 8-20**); comparing the two rotational accelerations or quantities derived therefrom with one another and, depending on the result of the comparison, performing a plausibility check based on the comparison (**see Iyoda figure 6, step S104**).

13. It would be obvious to one skilled in the art to add the steps in Iyoda to the method in Lahmann because the steps in Iyoda provide an accurate determination of a rollover in the presence of a faulty sensor (**see Iyoda page 11, lines 4-7**).

Conclusion

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Any inquiry concerning this or any earlier communication from the examiner should be directed to Examiner Peter Nolan, whose telephone number is 571-270-7016. The examiner can normally be reached Monday-Friday from 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached at 571-272-6956. The fax number for the organization to which this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D Nolan/

Examiner, Art Unit 3661

2/6/2009

/Thomas G. Black/

Supervisory Patent Examiner, Art Unit 3661